The Australia Institute

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Airly Mine Extension Proposal

Submission
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TAI

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Introduction

The Australia Institute welcomes the opportunity to make a submission on the Airly Mine Extension Proposal. Our submission relates to the Economic Impact Assessment of the proposal by consultants AIGIS Group, included as Appendix N to the Environmental Impact Statement (EIS). The results of this appendix are the basis for economic claims in EIS Chapter 6 – Socio-economic analysis, Chapter 12 – Justification and Conclusion and the Executive Summary.

The Economic Assessment of the Airly Mine Extension Proposal (herein the Airly project) does not comply with Australian Federal or NSW State Government guidelines for economic assessment, and features basic technical errors in the application of cost benefit analysis and environmental economic techniques.

The Assessment fails to discuss the major costs and benefits of the Airly project, giving decision makers no insight into the financial strength or otherwise of the project, and the reliability of the estimates of economic benefit.

One major technical error is the inclusion of all wages in the benefit calculations of the Airly project. This assumes that all employees would otherwise be unemployed for the duration of the project, an assumption that is not realistic at any time other than during a deep economic depression, which is clearly not the case in NSW.

Attempts have been made to evaluate the environmental impacts of the project. While these attempts are welcome and some of the references used are important studies, the application of environmental economic techniques does not meet standards expected in the economics profession.

Approach to economic assessment

The Economic Impact Assessment written by AIGIS Group is not based on standard economic assessment techniques and does not comply with NSW Treasury or Federal Government guidelines. This is acknowledged by AIGIS group:

> *The approach taken in this report may be considered as being unorthodox in the context of the use of cost-benefit analysis techniques. However, the intent is to produce material which facilitates 'lay' stakeholders to better comprehend the analysis presented, as it relates to project impacts likely to be of greater significance to such stakeholder groups.*[1]

It is surprising that research submitted to a formal planning process would be based on 'lay' economics rather than standard approaches supported by government departments. This approach has not been adopted in other parts of the EIS – sections relating mine design are not based on 'lay' engineering and seem to employ very 'orthodox' approaches to geology. While we support any attempt to make economics more accessible to the public, this should not be at the expense of the quality of the analysis, as is the case here. It is convenient for the proponents that AIGIS Group's approach to 'lay' economics happens to overstate the value of the Airly project to NSW by at least $100 million, as will be discussed below.

Furthermore, the main audience for EIS technical appendices is not the general public, but NSW decision makers, government departments and members of the public with a strong interest in planning. All of these groups have members and staff with training in 'orthodox' economics and are not assisted by distortions ostensibly aimed at making results more

[1] (AIGIS Group, 2014a) p9

accessible. Centennial Coal can, and does, promote its economic claims on its website and other public relations material.[2] The EIS process is not the place for such promotion.

Employment and wages in cost benefit analysis

Wages and opportunity cost of labour

The most significant technical error in the Economic Assessment is the treatment of employment. Decision makers should certainly consider the jobs of the 135 people who would work on the Airly project. However, the value of employment is fundamentally overstated.

The Economic Assessment treats employee wages as a benefit of the project. Wages are beneficial to workers, but they are a cost to the mine, so the treatment of wages in cost benefit analysis needs to be carefully considered.

The standard assumption for cost benefit analysis is that workers would work in other jobs if this project did not go ahead, as is made clear in the federal guidelines for cost benefit analysis:

> *As a general rule, it is recommended that analysts assume that labour, as with other resources, is fully employed. Moreover, unless the project is specifically targeted towards the goal of reducing unemployment, it can be expected that many of the jobs will be filled by individuals who are currently employed but who are attracted either by the pay or by other attributes of the new positions.*[3]

Cost benefit analysis only includes wages as a benefit if it can be shown clearly that workers on the Airly project would not otherwise have a job, or be engaged in any productive activity. This is possible in times of very high unemployment, but with NSW unemployment at around 5.8 per cent, this is not an appropriate assumption. To include wages as a partial benefit, it has to be shown that some degree of the labour on the project would otherwise be unused, as is emphasised by NSW Treasury:

> *It can be argued that in times of unemployment the opportunity cost of labour employed on a project is less than the wage costs, and project costs and benefits should be adjusted accordingly. However, in practice such adjustments are not generally made and are not recommended.*[4]

AIGIS Group make no attempt to estimate what portion of workers on the project might otherwise be unemployed and therefore assume that all workers would be otherwise unemployed for the duration of the project. In a highly skilled industry like mining this is clearly incorrect, as these skills would be used in other mining, construction and engineering projects. This point is stressed in the discussion of cost benefit analysis commissioned by the proponents of the Maules Creek Coal Project:

> *BCA involves the comparison of the 'with and without' project circumstances. The use of resources with and without the mine must therefore be considered. Without the mine, the resources to be allocated to the mining operation would be engaged in other uses in the economy. These are the opportunity costs of the proposed mine. Given that markets for these resources (land, machinery, labour etc.) in the Australian*

[2] See for example http://www.centennialcoal.com.au/Operations/Projects/Airly-Extension.aspx
[3] (Department of Finance and Administration, 2006) p40
[4] (NSW Treasury, 2007) p48

> *economy are relatively competitive and not highly distorted by subsidies and regulations, market prices reflect these resources opportunity costs.*[5]

The correct treatment of the wages related to the project is to treat them as a cost to the proponents, one that will be covered by revenue from sales. If it can be shown that some portion of this employment would otherwise not exist, some small amount can be included in the cost benefit analysis, however this is not standard practice in NSW or more widely.

The result of including wages as a benefit is that the AIGIS Group cost benefit analysis overstates benefits by present value $102.6 million.[6] Under standard assumptions, none of this amount would be included in a cost benefit analysis.

Main costs and benefits

Proper cost benefit analysis gives readers some idea of the financial strength of the project. By presenting estimates of likely revenues and costs, readers can assess the degree to which the project will be able to operate through market fluctuations and other difficulties. Readers gain some understanding of the likelihood of benefits such as royalties and employment being maintained at the claimed levels.

Given the importance of this information to stakeholders, it is surprising that this EIS says:

> *This material is unsuitable for presentation in a document which is intended for public exhibition and is excluded from this Economic Assessment on that basis.*[7]

Centennial project proposals, assessed by the AIGIS Group, are the only ones to make this claim. Companies such as Rio Tinto, BHP Billiton, Whitehaven Coal, Glencore, Yancoal, Shenhua and many others do not consider such estimates to be unsuitable for the public and provide it in their economic assessments. Indeed, all other recent proposals for coal projects in NSW have included broad estimates of capital and operating costs, along with likely revenues.

Centennial and AIGIS Group adopted the same approach in their assessment of the Angus Place extension proposal. The proposal showed no cost or revenue estimates, though it claimed the project would operate for 25 years, bringing 225 jobs and $770 million in benefits, including $203 million in royalties.

None of these benefits are likely to occur, however, as Centennial recently announced the suspension of operations at Angus Place and probable cancellation of the extension:

> *In this current market that additional investment that we'd need to get [for the Angus Place Extension] is extremely difficult to justify on the back of both the domestic and international market.*[8]

No indication is provided in the AIGIS Group assessment of the Angus Place project that such an outcome was possible.

The economic strength of the Airly project is also impossible to gauge from the EIS submitted based on non-transparency and 'lay' economics. Airly's viability should be questioned as

[5] (Bennett, 2011) p2
[6] See (AIGIS Group, 2014b) p19, the sum of construction and mine operation employment benefits.
[7] (AIGIS Group, 2014b) p14-15
[8] Centennial's Managing Director, David Moult, quoted on ABC website, http://www.abc.net.au/news/2014-10-29/another-coal-mining-blow-for-lithgow3a-angus-place-mothballed/5850380

since beginning operation in 2009-10, the project has already been closed and put in care and maintenance for over a year between 2012 and 2014, a fact not mentioned in AIGIS Group's otherwise comprehensive history of the mine on page12.

This shows that the Airly mine is a marginal operation and that future interruptions should be expected. This is confirmed by company statements. While AIGIS Group considers that discussion of Airly's costs and revenues is too sensitive for the NSW public, Centennial's parent company, Thailand's Banpu, shows no such reservations:

> *Centennial's run-of-mine output in 2013 decreased … The decrease was due to the higher cost Airly and Mannering operations being placed under 'care and maintenance' throughout the year.*[9]
>
> *Airly is a high cost operation and a decision has been made recently to put it onto care and maintenance and to transfer equipment to Clarence.*[10]
>
> *In 4Q12 the operations of Airly and Mannering, both regarded as small and high-cost mines, were put in Care and Maintenance phase in order to improve efficiency for the group.*[11]

Discussion of project economics, including costs and benefits, is important for decision makers. This is emphasised in the NSW Treasury *Guidelines for use of Cost Benefit Analysis in mining and coal seam gas proposals*:

> *Benefits and costs should be estimated where possible as those that accrue for New South Wales. In the first instance, it will generally be most practical to assess all major costs and benefits to whoever they accrue and then adjust to estimate the proportion of these attributable to residents of the State.*

Clearly, the financial strength of the project is important to the NSW community. The community and decision makers should have an understanding of the project's economics to ensure that the claimed benefits – such as jobs and royalty revenues – actually materialise. Financially weak projects are those which fail to provide intended benefits but still impose costs on the community. From the information publicly available, the Airly project appears financially marginal.

Environmental impacts

Centennial's assessment of the environmental costs of the Airly project have been estimated using "benefits transfer," a process which takes the results of environmental valuation studies in one area and applies them as best as possible to the area in question.

Benefits transfer is not an exact science but can be an acceptable way of estimating environmental impacts of a project in monetary terms, in the event that detailed studies of the project site cannot be sourced or undertaken.

Great care must be taken when using benefits transfer to ensure appropriate studies are used and their results carefully adapted to the relevant environment. Analysts must outline why they have chosen particular studies and what they have done to "transfer" these results.

[9] (Banpu, 2014) p11
[10] (Banpu, 2013) p11
[11] (Banpu, 2013) p106

Unfortunately no such analysis is provided in the Airly project Economic Assessment. Studies used in the assessment and some comments are provided in Table 1 below:

Table 1: Environmental valuation in the Airly EIS

Impact	Study used	Comment
Noise	Day B, Bateman I & Lake I (2010): "Estimating the Demand for Peace and Quiet Using Property Market Data" - Hedonic pricing (impact on dwelling values)	This study is based on property sales data from 1997 in Birmingham in the UK. It is unclear why this study has been used, when similar studies have been conducted in Australia.
Subsidence, soil and water	Streever WJ, Callaghan-Perry M, Searles A, Stevens T & Svoboda P (1998): "Public Attitudes and Values for Wetland Conservation in New South Wales, Australia"	There have been many environmental valuation studies done in NSW since 1998, including in relation to coal projects and subsidence. Why this one is used and how its values have been applied is unclear. More significantly, a Willingness to Pay value has only been calculated for households in Lithgow. As the project's subsidence impacts will affect significant areas, disclosure of Willingness to Pay calculations for households in the rest of NSW or Australia may be relevant. This is emphasised in evaluation of similar impacts in the Warkworth case in the Hunter Valley, see (Preston, 2013). The approach taken heavily undervalues the potential impacts of the project. Why this same study has been applied to estimate impacts on soil, surface water, groundwater and natural heritage impacts is unclear and seems inappropriate.
Air	DEC NSW (2005): "Health Costs of Air Pollution in the Greater Sydney Metropolitan Region"	This is a well-known study and an obvious choice to assist in evaluating this impact. More detail needs to be provided on how values calculated for the entire greater Sydney area have been applied to 17 individuals and whether this is the appropriate approach to take in valuing this impact.
Heritage	Allen Consulting Group (2005): "Valuing the Priceless: The Value of Heritage Protection in Australia"	This study relates to a nation-wide survey of attitudes towards heritage protection. Why this study was chosen over existing studies relating specifically to Aboriginal heritage sites is unclear. Minimal detail is provided on how the results of this study have been adapted to the Airly situation.
Biodiversity	Land & Water Australia (2005): "Making Economic Valuation Work for Diversity	This reference is not an economic evaluation of biodiversity impacts, but a basic review of environmental economic techniques. The

	Conservation":	economic assessment seems to base its evaluation from a text box in this report relating to a separate study, Jakobsson K. & Dragun A. (2001) *The worth of a possum: valuing species with the contingent valuation method.* Environmental and Resource Economics 19, 211-227. AIGIS Group make no comment as to whether this study's context in Victoria is applicable to the Capertee area or how its results were adapted.
Visual	Curtis I.A. (2004): "Valuing Ecosystem Goods and Services: A New Approach Using a Surrogate Market and the Combination of Multiple Criteria Analysis and a Delphi Panel to Assign Weights to Attributes"	Curtis's ecosystems valuation approach is an interesting and important development in ecological economics. However, this study is based on ratable land values and evaluation of all aspects of ecosystems services in the Queensland Wet Tropics World Heritage Area. It is completely unsuitable for evaluation of visual impacts of the Airly project. This is the opinion not just of The Australia Institute, but of the author of the study, who we contacted for comment. AIGIS Group have either not read or not understood Curtis' study.

Decision makers should give little weight to the evaluation of environmental costs in the Economic Assessment. An identical approach was adopted in AIGIS Group's assessment of the Angus Place project. In their response to submissions their main defence of their choice of benefits transfer studies is that they appear in the Environment and Heritage Department's Environmental Valuation Reference Inventory. Their appearance in this inventory does not justify their use and shows AIGIS Group's limited knowledge of wider environmental valuation literature. While some of the studies used to evaluate these impacts are important pieces of research, the level of rigour applied to adapting these results to the Airly project falls far short of standards expected within the economics profession.

Conclusion

The Economic Impact Assessment of the Airly Mine Extension Proposal by consultants from the AIGIS Group makes fundamental errors in economic theory and fails to comply with State and Federal Guidelines.

The authors justify their departure from standard economic practice by claiming to write for a 'lay' audience. This not only serves to overstate the value of the project by over $100 million, but insults their primary audience – NSW planning officials.

Wages are incorrectly counted as a benefit of the project. This is inappropriate as it assumes workers would otherwise be unemployed for the duration of the project – a highly unlikely situation in NSW.

By withholding discussion of the major costs and benefits of the Airly project, such as capital costs, operating costs and coal sales revenue, the Economic Assessment fails to provide decision makers with sufficient information regarding the project's economics.

It is impossible to assess whether, and under what circumstances, the project will be able to generate the jobs and royalties claimed by the proponents. This is especially surprising for a project which has been in and out of care and maintenance mode in its short life, and which is openly acknowledged as high-cost by its owners.

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